

## **APPENDIX J**

### **COST OF ILLNESS VALUATION METHODS**

Several approaches are available to estimate the economic benefits of reduced morbidity effects associated with pollution releases, including: contingent valuation, averting behavior, hedonic valuation, and cost of illness approaches. Table J-1 provides a brief summary of each.

<b>TABLE J-1: COST OF ILLNESS VALUATION METHODS</b>	
<b>Valuation Method</b>	<b>Description</b>
Contingent Valuation Approach	The contingent valuation approach uses a survey to illicit estimates of individual willingness-to-pay to avoid a given illness. The contingent valuation technique, when properly designed, should capture direct treatment costs, indirect costs, and costs associated with pain and suffering.
Cost of Illness Approach	The cost of illness approach estimates the direct medical costs associated with an illness and will sometimes include the cost to society resulting from lost earnings. Cost of illness studies do not account for pain and suffering, the value of lost leisure time, or the costs and benefits of preventive measures.
Hedonic Valuation Approach	Hedonic valuation studies use regression analysis to estimate the relationship between environmental improvement or reduced worker risk and other independent variables. For example, a hedonic wage study may attempt to describe the relationship between wage rates and job related risks (i.e., what is the premium required to compensate workers for the added risk they incur from their occupation). The weakness of the hedonic approach is based upon the difficulty in separating illness effects from other independent variables.
Averting Behavior Approach	The averting behavior method examines preventive measures undertaken to avoid exposure or mitigate the effects of illness. Investments made in preventive measures are then used as a proxy for individual willingness-to-pay to avoid a particular illness.

Source: Unsworth, Robert E. And James E. Neuman, Industrial Economics, Incorporated, Memorandum to Jim DeMocker, Office of Policy Analysis and Review, *Review of Existing Value of Morbidity Avoidance Estimates: Draft Valuation Document*. September 30, 1993.